

CLAIMS

1. An antibody against a protein or peptide, wherein the protein or peptide consists of a full-length amino acid sequence constituting a von Willebrand factor cleaving enzyme (hereinafter also referred to as ADAMTS-13), a modified amino acid sequence thereof in which one or several amino acids thereof are deleted, substituted or added or a partial sequence of any one of said amino acid sequences, or a polypeptide chain comprising said full-length amino acid sequence.
2. The antibody according to claim 1 wherein the ADAMTS-13 is derived from a primate or rodent.
3. An antibody against a protein, wherein the protein consists of a modified amino acid sequence in which one or several amino acids of the amino acid sequence constituting ADAMTS-13 represented by SEQ ID No. 1 are deleted, substituted or added or a partial sequence of any one of said amino acid sequences, or a polypeptide chain comprising said amino acid sequence of ADAMTS-13.
4. An antibody recognizing a portion of the polypeptide of the amino acid sequence constituting ADAMTS-13 represented by SEQ ID No. 1, wherein said portion is a range from the spacer domain to the N-terminus, or from the metalloprotease domain, disintegrin-like domain, Tsp1-1 domain or Cys-rich region to the spacer domain.
5. The antibody according to any one of claims 1 to 4 applicable to affinity purification of a protein, wherein the protein consists of a modified amino acid sequence in which one or several amino acids of the amino acid sequence constituting ADAMTS-13 are deleted, substituted or added or a partial sequence of any one of said amino acid sequences, or a polypeptide chain comprising said amino acid sequence of ADAMTS-13.
6. The antibody according to any one of claims 1 to 4 capable of inhibiting or neutralizing the enzyme activity of a protein, wherein the protein consists of a modified amino acid sequence in which one or several amino acids of the amino acid sequence constituting ADAMTS-13 are deleted, substituted or added or a partial sequence of any one of said amino acid sequences, or a polypeptide chain comprising said amino acid sequence of ADAMTS-13.

7. The antibody according to claim 6, wherein the antibody recognizes the range from the spacer domain to the N-terminus, the metalloprotease domain or the disintegrin-like domain of ADAMTS-13.
8. An antibody prepared by an immunogen comprising a partial peptide of ADAMTS-13 of SEQ ID Nos. 2 and 3.
9. An antibody prepared by immunizing with a polypeptide chain expressed as a full-length or partial-length of SEQ ID No. 1 or by transfecting an expression vector capable of expressing said polypeptide chain directly into an animal.
10. The antibody according to any one of claims 1 to 9 which is a polyclonal antibody.
11. The antibody according to any one of claims 1 to 9 which is a monoclonal antibody and a gene encoding said antibody.
12. The monoclonal antibody according to claim 9 which is an antibody produced by a hybridoma selected from the group consisting of hybridoma line WH10 (accession number FERM BP-8174), hybridoma line WH63.1 (accession number FERM BP-8175), hybridoma line WHS40.3 (accession number FERM BP-8176), hybridoma line Pep4-34.1 (accession number FERM BP-8177), hybridoma line WH2-22-1A (accession number FERM BP-8483), hybridoma line WH2-1-1 (accession number FERM BP-8484), hybridoma line WH2-11-1 (accession number FERM BP-8485), hybridoma line Pep6-6A (accession number FERM BP-8474) and hybridoma line Pep4-5B-1 (accession number FERM BP-8475) and a gene encoding said monoclonal antibody.
13. An antibody which can bind to or competitively bind to an epitope of ADAMTS-13 recognized by an antibody according to any one of claims 1 to 12.
14. A pharmaceutical composition or diagnostic medicine comprising an antibody according to any one of claims 1 to 13.
15. A labelled protein comprising an antibody according to any one of claims 1 to 13 as a component.
16. An isolated cell which can produce an antibody according to any one of claims 1 to 13.
17. The cell according to claim 16 which is a hybridoma.

18. The cell according to claim 17 selected from the group consisting of hybridoma line WH10 (accession number FERM BP-8174), hybridoma line WH63.1 (accession number FERM BP-8175), hybridoma line WHS40.3 (accession number FERM BP-8176), hybridoma line Pep4-34.1 (accession number FERM BP-8177), hybridoma line WH2-22-1A (accession number FERM BP-8483), hybridoma line WH2-1-1 (accession number FERM BP-8484), hybridoma line WH2-11-1 (accession number FERM BP-8485), hybridoma line Pep6-6A (accession number FERM BP-8474) and hybridoma line Pep4-5B-1 (accession number FERM BP-8475).
19. An immunoassay kit comprising an antibody according to any one of claims 1 to 13.
20. A process for preparing an antibody comprising the steps of immunizing and sensitizing a warm-blooded animal with a polypeptide comprising a part or the whole of the amino acid sequence of ADAMTS-13, and extracting an antibody according to any one of claims 1 to 13 from the humor of said warm-blooded immunized and sensitized animal.
21. The process for preparing an antibody according to claim 20 wherein the polypeptide for immunizing and sensitizing a warm-blooded animal comprises a part or the whole of the amino acid sequence represented by SEQ ID No. 1 in the sequence list as a part of ADAMTS-13.
22. A process for preparing an antibody comprising the steps of culturing in vivo or in vitro an isolated cell which can produce an antibody according to any one of claims 1 to 13, and extracting said antibody from the humor or culture.
23. The process for preparing an antibody according to claim 22 wherein the isolated cell which can produce an antibody is a hybridoma.
24. The process for preparing an antibody according to any one of claims 20 to 23 wherein the antibody is extracted by a purification method including one or more selected from the group consisting of salting out, dialysis, filtration, concentration, centrifugation, fractional precipitation, gel filtration chromatography, ion exchange chromatography, high-performance liquid chromatography, affinity chromatography, gel electrophoresis and isoelectric focusing.

25. A detection method of ADAMTS-13 characterized by contacting an antibody according to any one of claims 1 to 13 with a analysis target and detecting ADAMTS-13 by immunoreaction.
26. The detection method according to claim 25 which is carried out by radioimmunoassay, enzyme immunoassay or fluoroimmunoassay using an antibody according to any one of claims 1 to 13.
27. The detection method according to claims 25 or 26 wherein the analysis target is a biological sample extracted from a living body.
28. A process for purifying ADAMTS-13 comprising the steps of contacting an antibody according to any one of claims 1 to 13 with a mixture containing ADAMTS-13 and impurities to adsorb said protein on the antibody and desorbing said adsorbed protein from the antibody.
29. The purification method according to claim 28 wherein the antibody is bound to a water insoluble carrier.
30. A diagnostic medicine or pharmaceutical product which comprises as a main component the full-length sequence or a partially deleted variant of ADAMTS-13.
31. The diagnostic medicine or pharmaceutical product according to claim 30 comprising as a main component a region from the spacer domain of ADAMTS-13 to the N-terminus, metalloprotease domain, disintegrin-like domain, Tsp1-1 domain or Cys-rich region to the spacer domain.
32. A reagent, diagnostic medicine or pharmaceutical product for detecting an antibody against the polypeptide chain comprising as a main component the full-length sequence or a partially deleted variant of ADAMTS-13.
33. Use and a preparation method of an antigen for detecting an antibody or analyzing an epitope comprising as a main component the full-length sequence or a partially deleted variant of ADAMTS-13.